



**A Report
on the Art and Technology Program
of the Los Angeles County Museum of Art**

1967-1971

The Museum's Chief, partly Art Council, has been a major support of the project. The project was initiated by the Museum's Chief, partly Art Council, has been a major support of the project. The project was initiated by the Museum's Chief, partly Art Council, has been a major support of the project.

Mr. C. C. Chubb, who was the primary Art Council representative for collection information, has worked tirelessly with us to ensure complete support for almost three years.

David Smith, Director of the Art Gallery, University of California, San Diego, was approached by Viking Press in January, 1968 to write a book about the A & T project. He was an important source of information about technical problems as well as artistic concepts.

Dr. Richard Feynman, Tolman Professor of Physics at the California Institute of Technology, advised us. Consulting to A & T, Dr. Feynman and most of the other members of the more recent wave of physicists, who were not trained in quantum mechanics, but who were available to discuss and model them.

When Kallen Yelton, Director of the San Diego Art Museum, Inc., was asked to contribute to the A & T project, she was able to provide us with a number of important references to the Museum's collection of American literature.

In the course of developing the book, we have received much help in preparation. I am particularly indebted to: Charles Adams, Michael Berman, Paul Berman, Robert T. Brady, Eugene Butler, James Galt, Lee Galt, William Galt, George Galt, James Galt, L. George Galt, Henry Galt, James Galt, Edward Fry, Max Galt, Harry Galt, William Galt, Leonard G. Frank, Murphy, David Galt, Ted Galt, Sam Galt, Jack Galt, Peter Galt, George Galt, Barbara Galt, Dr. David Galt, Richard Galt, Edward Galt, Sam Galt, Sam Galt, and Robert Galt.

William L. Galt was particularly helpful in providing the information between the two and the other.

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Jack Lowery wrote the description of the project in the first section of the book. Henry Shuman and Jerry Lubliner of Art Council, Inc., studied every question by a group of artists in the course of the project.

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The project is a book that was conceived by the Art Council of America and the University of California, San Diego. The book will be presented in the form of a book with a number of illustrations. The book will be presented in the form of a book with a number of illustrations. The book will be presented in the form of a book with a number of illustrations.

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In planning the collection for the Museum, I received the expertise of Lawrence Berman, Charles Galt, and Robert Galt. William Galt, George Galt, and James Galt. William Galt, George Galt, and James Galt. William Galt, George Galt, and James Galt.

As the project developed, it was particularly helpful in

Maurice Tuchman

In 1966, when Art and Technology was first conceived, I had been living in Southern California for two years. A newcomer to this region is particularly sensitive to the futuristic character of Los Angeles, especially as it is manifested in advanced technology. I thought of the typical Coastal industries as chiefly aerospace oriented (Jet Propulsion Laboratory, Lockheed Aircraft); or geared toward scientific research (The Rand Corporation, TRW Systems); or connected with the vast cinema and TV industry in Southern California (Universal Film Studios). At a certain point—it is difficult to reconstruct the precise way in which this notion finally emerged consciously—I became intrigued by the thought of having artists brought into these industries to make works of art, moving about in them as they might in their own studios. In the beginning, as I was considering this idea as just an abstract concept, I had few concrete visions of what might actually result from such exchanges. Indeed I was not certain whether artists of calibre would desire such involvement with industry. And if they did, and an organized program could be instituted to give them such opportunities, I had no idea how to go about persuading corporations to receive artists into their facilities—nor for that matter, why they should want to.

In reviewing modern art history, one is easily convinced of the gathering esthetic urge to realize such an enterprise as I was envisioning. A collective will to gain access to modern industry underlies the programs of the Italian Futurists, Russian Constructivists, and many of the German Bauhaus artists. Within these movements, no intensive effort was made directly to approach industrial firms in order to harness corporate machinery or technology, or systematically to expose artists to their research capabilities. Still, the impulse to do this is well documented. A need to reform commercial industrial products, to create public monuments for a new society, to express fresh artistic ideas with the materials that only industry could provide—such were the concerns of these schools of artists, and they were announced in words and in works.

During late '66 and early '67, I began studying the nature and location of corporate resources in California. In November, 1967, I went to the Museum's Board of Trustees, members of which were significantly involved with over two dozen West Coast companies, to outline my proposal and to elicit advice and support. As individual entrepreneurs, the Board members were rather indifferent to the experiment, and as Trustees they resisted having the Museum commit itself, and me, to such an undertaking. The proposal appeared to them too vague and open-ended, and the budget almost impossible to predict. I argued that I would raise personally the great majority of funds to get the project underway, and that if I failed to do this, we would then simply drop the

scheme before it was made public, avoiding any embarrassment or significant financial loss to the institution. Other than on a practical level, I maintained that this project was a proper undertaking for a Museum, and represented an opportunity to play an innovative role. It would draw attention to the acknowledged need in the U. S. for institutions responsive to the interests of society—in this case, the interests of artists, and perhaps even businessmen. The Board gave me tacit consent to go ahead and study the possibilities, with the program still subject to their approval.

I prepared a case with which to solicit corporation involvement, centered on three main lines of approach which I calculated to be of interest to the business community. I argued that corporate donations to the arts, which were infinitesimal compared to support of medical and educational facilities, should be enlarged. This would benefit them, as much as the recipient museums, operas, theatres, etc., since businesses benefit from proximity to thriving cultural resources in attracting talented personnel. I also pointed out that the companies' collaborations with artists might well result in major works of art, and I decided that one work of art made with any significantly cooperative corporation should be offered to that corporation. (It became clear very early that a high proportion of the companies would view this possibility as a salient motive for collaboration.) Most importantly, I argued that companies might benefit immeasurably, in both direct and subtle ways, merely from exposure to creative personalities.

These arguments may have been substantive, but there remained the problem of presenting them to the right people. I had drawn up lists of corporations I felt should be solicited, but it was difficult to obtain appointments with their presidents. (I realized then that it would be fruitless to see public relations people, or anyone other than the man at the top who could sign the check and delegate authority.) In spite of the aegis of the Los Angeles County Museum of Art, it would typically take six phone calls and two letters, over a period of six months, to effect a meeting, and even with such protracted efforts few interviews were arranged. When I did get past the front door, the response from corporation executives was usually encouraging, but the overall rate of progress was much too slow.

In June, 1967, an article in the *Los Angeles Times* mentioned my plan to "bring together the incredible resources and advanced technology of industry with the equally incredible imagination and talent of the best artists at work today." Mrs. Otis Chandler, wife of the *Times'* publisher, was intrigued with the story and telephoned me about it. I asked Missy Chandler for her assistance in arranging appointments with corporation executives. She asked whether the Museum's Board was

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Born Laasphe, Germany, 1928
Resident New York City

advised them about the capabilities of chromatic control which could be obtained with the polarized fluids. A table was set up with a sort of flat tank set on it, into which dyes were pumped under polarized plastic sheets. Paolozzi was able to determine by observing the flow patterns under various conditions in his apparatus what he might be able to achieve on a larger scale. He visualized making a wall of color patterns, and thought of incorporating some sort of mechanism whereby spectators could themselves manipulate the color patterns either by "playing" a console, or simply by walking in front of the structure. The more he worked with the device, however, the less confident he became that the medium was worth developing into an art work. He also felt that the environment at Wyle was constricting to him, and he sensed that he was being "railroaded," to use his word, into a narrow and unreasonably specific area, when he would have liked to freely explore the complex of buildings around him and conceivably make use of other resources available at Wyle.

On April 4, MT sent Frank Wyle the following letter, terminating the Paolozzi/Wyle collaboration:

I have been informed by Eduardo Paolozzi that he will not be able to continue his 'residence' at Wyle Laboratories. The artist believes that only work of insufficient value could result from the collaboration. Paolozzi feels that the only area at Wyle made available to him concerned binary infraction, and that this area, as interesting as it is technically, is not fecund ground for his personal aesthetic. He also indicated to me that his attempts to make something in this area were hampered by various restrictions placed on the scope and scale of his involvement; means of implementation were, in Paolozzi's opinion, too restrictive to allow for success.

I very much regret that this collaborative effort has failed. It is the first time a contracted artist and a Patron Sponsor Corporation have not been able to work out a satisfactory relationship. I tried to contact you when this situation developed last week in an attempt to ward off the problem. Perhaps we should discuss this matter, at your convenience, in order to prepare for future involvements with artists. Since we regard Wyle Laboratories as one of the most extraordinary of the thirty-one corporations joining with us in this program, we are especially eager to have a valuable situation develop.

HG took Paolozzi to both Cal Comp and to TRW Systems before the artist returned to London. Paolozzi and TRW agreed to work on a computer graphic project; the artist would send the company drawings and instructions by mail from London for them to program and compute. We have not been able to ascertain from Paolozzi whether work is indeed progressing at this time.

See Stockhausen section, page 322

Michael Cain wrote to us for Pulsa, a team of "researchers in programmed environments," in April, 1969:

Pulsa proposes to realize for the L.A. Museum an environment sensitive to aspects of its own condition through an input system integrated into our existing outputs and controls capable of receiving and interpreting many kinds of information from its surroundings. In the past we have developed a variety of instrumentation for generating and outputting information as perceptible wave energies and are most recently involved in the design and programming of large scale outdoor matrices of strobe lights and loud speakers. It has long been our goal to feedback information from the environment of the matrix to the matrix as its program.

We feel fortunate in having an opportunity to do research on environmental sensors in L.A. where the special manmade ecology is provoking such attentive environmental studies, and are convinced that local industries will be eminently capable of helping us realize our project. We wish to consider acoustical, optical and infrared, radio, and radar scanning devices as means of designing sensors capable of determining the behavior and distribution of persons, animals and plants, local air and temperature conditions, ambient light and sound, and the outputs of the system itself. These sensors will require interface and software to adjoin them to the small tandem time-shared computer with which we intend to be controlling all of our future installations. We should like to work on this proposal with Information International, R.C.A., Litton Industries, T.R.W., and especially Gilphilin, for help in acquiring a radar system.

Our proposal for L.A. would entail using these information input devices in a large space, hopefully a square mile of open land, in association with a programmable matrix consisting of 128 strobe lights and an equal number of loudspeakers in an array conformed to the site. This system should be extant and available for presentation during the L.A. show after its initial fabrication and installation in the World's Fair at Osaka. A Digital Equipment Corporation PDP-8 computer and Grason-Stadler multiplexer with five input-output stations would accept information from the sensors and from a teletypewriter and generate patterns and sequences. This information would be transmitted to a second computer, a General Automation SPC-12 and there expanded into specific instructions to a signal synthesizer and to the output devices which would be digitally controlled. By the spring of 1970 our previous presentations in Central Park, the Guggenheim Museum, and Osaka will have given us facility to take full advantage of the very great flexibility of this system.

If other industries are willing to donate the time and money for collaboration on a second proposal, we should use the opportunity to experiment with sources of light and improve further our design for output devices.

The ideal device would include a source of light digitally controlled and widely variable in intensity, duration, and spectrum. Gas discharge tubes, fluorescents, incandescents, electroluminescent panels, phosphors and fluorescent pigments, and chemiluminescent materials have all been useful to us but none have been fully satisfactory. We should welcome assistance from Union Carbide and International Chemical and Nuclear among others.